

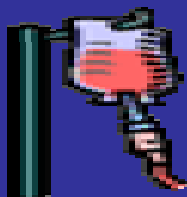


# NetCAP E-Newsletter

<< July-Sept 2005 >>

Fall Edition

*“Network – A group engaged as a supportive system of sharing information and services.”*



## In this Issue -

- **Five Days Of Anguish at Tulane**
- **Methylene Blue and Vasoplegia**

## Five Days Of Anguish At Tulane

Dr. Jeff Myers, Pediatric Cardiothoracic Surgery Chief at Tulane, was caught in the Tulane Medical Complex during Hurricane Katrina and the aftermath, for 5 grueling days. His report describes a horrific tale of rioting, a hostage situation and snipers at night. After dispatching his family to Minnesota prior to the Hurricane's arrival, he elected to stay at Tulane with his patients. Selected excerpts from his report (HeartWire) are as follows;

On Day 2 following the hurricane, to everyone's shock, New Orleans was now flooded interrupting all the hospital's generators. Immediate plans were made to evacuate 160 patients and 1200 hospital personnel via helicopters. One patient, a 15-year old on a VAD, had to have a separate generator, which was powered by gas siphoned from cars in the hospital parking lot. They were able to evacuate this patient later that night – first the patient and a 300 pound VAD had to be carried down several flights of stairs and across the hospital to the parking area. The situation was highly perilous because snipers were firing at the helicopters – staff disconnected the VAD, rushed the patient from the hospital to the helicopter using external cardiac massage and then connected the patient to the VAD in the helicopter, while ostensibly dodging sniper fire.

Evacuations continued through Day 3, having to be suspended at night secondary to the ongoing sniper fire. The Radisson Hotel across from Tulane which was housing hospital employee families was taken over by armed gangs. Dr. Bob Ascutto, Chief of Tulane's Pediatric Cardiology had to wade over to the hotel through a "toxic stew" to rescue his wife and 2 kids.

On Day 4, evacuations completely stopped. Using a cell phone to communicate with his wife, he learned that it had been announced that Tulane had been completely evacuated, when in actuality some 360 persons still remained. Dr. Myers provided this information to a Cleveland radio station via his cell phone; [http://www.wky.com/news/news\\_article.aspx?storyid=40183](http://www.wky.com/news/news_article.aspx?storyid=40183). That night, the coast guard flew in a sniper, who was positioned on the roof of Tulane, to counter shooters in the streets. However, the remaining personnel at Tulane now started panicking as they feared being stranded. Individuals were sleeping in the garage, because the school and the hospital could no longer be secured. Dr. Myers provided this follow-up report to NPR; <http://www.npr.org/templates/story/story.php?storyId=4829434>. However, after repeated calls to the Pentagon via his impromptu cellphone network, on Day 5, Chinooks arrived and evacuated the remaining personnel. Dr. Myers was transported to Lafayette, under an armed SWAT guard. After being united with his wife in Minnesota, he gave this final report to NPR; <http://www.npr.org/templates/story/story.php?storyId=4834159>.

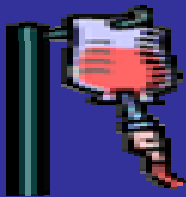
Tulane  
UNIVERSITY  
HOSPITAL & CLINIC  
Minds That Heal.

## NetCAP

• Network of Cardiac Anesthesia Professionals

• An e-information network for professionals involved in cardiac anesthesia

• NetCAP is sponsored by NCAC, PA



National Cardiac Anesthesia Consultants, PA  
302 Lake Glen Court  
Sugar Land, TX 77478

Phone:  
(713) 301-8223

Fax:  
(281) 242-4028

E-mail:  
pgl@ncac-pa.com

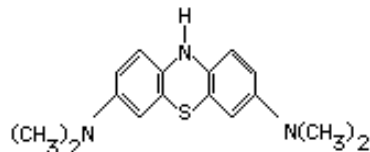
We're on the Web!  
<http://www.ncac-pa.com>

# Methylene Blue and Vasoplegia

Various newsletters and informal conversations with colleagues in the OR have in recent months centered on the use of Methylene Blue (MB) as a remarkable rescue agent. So, I conducted some research on what is currently known about the drug.

Back in 1994, the term "Vasoplegic Syndrome" was coined by Gomes from Brazil, to describe a distinct clinical phenomenon following cardiopulmonary bypass - described as "hypotension, tachycardia, normal or elevated cardiac output, low systemic vascular resistance and decreased filling pressures," a state resembling septic shock. Most publications speculate that it is related to Systemic Inflammatory Response Syndrome (SIRS). SIRS leads to the increased synthesis of nitric oxide (NO). In turn, NO stimulates guanylate cyclase leading to the production of cyclic guanosine 3' 5' monophosphate (c-GMP), which is a potent vasodilator. One theory (there are others) is that MB, inhibits guanylate cyclase, decreasing the production of c-GMP. Patients on calcium channels blockers, heparin and angiotensin-converting enzyme inhibitors are predisposed to this syndrome.

Following a search on the Entrez PubMed website, I found 6 relevant publications describing current clinical experience with MB and vasoplegic syndrome following cardiac surgery? Five reports describe the administration of MB 2 mg/kg as reversing or ameliorating the effects of vasoplegia syndrome. In turn, morbidity and mortality was significantly improved. One report (Evora - Brazil) actually advocates that an infusion of MB for 48 - 72 hours is preferable to bolus rescue therapy.



Notably, in these reports, norepinephrine (NE), but not vasopressin was the primary mode of therapy for vasoplegia syndrome, prior to the administration of MB. Since vasopressin also inhibits guanylate cyclase, one must question whether the use of vasopressin would have impacted the need for MB.

Nevertheless, MB 2 mg/kg appears to be useful rescue therapy in indicated patients when other measures such as vasopressin and NE have proved unsuccessful. MB can have adverse effects - cardiac arrhythmias, coronary vasoconstriction, decreased cardiac output, decreased renal and mesenteric blood flow, increased PVR, blue urine, skin discoloration and pulse oximetry interference. However, use of 2 mg/kg falls well below the toxic threshold.

## And ...



**This Newsletter contains information, views and judgments expressed exclusively by Paul G. Loubser, M.D. Since judgments are subjective in nature, they should be interpreted with some caution.**

**Every effort will be made to be conscientious about reporting accurate and reliable information. Feedback is welcome on any subject matter. The newsletter is also posted on our website.**